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10/585,097	06/30/2006	Xavier Leroy	LEROY4	5768

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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/585,097	LEROY ET AL.
	Examiner	**Art Unit**	
	JEREMIAH AVERY	2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>30 June 2006</u>.
2a) ☐ This action is **FINAL**.　　　2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-11</u> is/are pending in the application.
　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-11</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>(none were filed)</u> is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　a) ☒ All　b) ☐ Some * c) ☐ None of:
　　1. ☒ Certified copies of the priority documents have been received.
　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.
　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

I.   Claims 1-11 have been examined.

Drawings

1.   No drawings have been submitted with this application. As stated within 35

U.S.C. 113: The applicant shall furnish a drawing where necessary for the

understanding of the subject matter sought to be patented. When the nature of such

subject matter admits of illustration by a drawing and the applicant has not furnished

such a drawing, the Director may require its submission within a time period of not less

than two months from the sending of a notice thereof. Drawings submitted after the filing

date of the application may not be used (i) to overcome any insufficiency of the

specification due to lack of an enabling disclosure or otherwise inadequate disclosure

therein, or (ii) to supplement the original disclosure thereof for the purpose of

interpretation of the scope of any claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

Claims 2, 4, 7, 8, 10 and 11 are rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention.

2.   Claims 2 and 4 have the claim language "and/or". It is unclear as to whether one

or both components are required. Appropriate correction is required. The Examiner will

broadly interpret the claim language to pertain to "or".

3.   The term "possibly" in claims 7, 10 and 11 is a relative term which renders the

claims indefinite. The term "possibly" is not defined by the claims, the specification

does not provide a standard for ascertaining the requisite degree, and one of ordinary

skill in the art would not be reasonably apprised of the scope of the invention.

4.   Claims 7 and 8 contain the trademark/trade name "Java". Where a trademark or

trade name is used in a claim as a limitation to identify or describe a particular material

or product, the claim does not comply with the requirements of 35 U.S.C. 112, second

paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope

is uncertain since the trademark or trade name cannot be used properly to identify any

particular material or product. A trademark or trade name is used to identify a source of

goods, and not the goods themselves. Thus, a trademark or trade name does not

identify or describe the goods associated with the trademark or trade name. In the

present case, the trademark/trade name is used to identify/describe the components of

a distributed object computing infrastructure and, accordingly, the

identification/description is indefinite.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by United

States Patent No. 7,127,605 to Montgomery et al., hereinafter Montgomery.

5.   On page 4 of the Applicant's Specification, with regards to the terms "licit" and

"illicit", it is stated that "the actual definition of what is a licit or illicit reference depends

on the system, on the programming language and possibly on the context". Thus the

claim language is open to a broad interpretation and is disclosed via the citations of

Montgomery below. With the sharing of "applications" within Montgomery being

permissible, it is broadly interpreted by the Examiner that the Applicant's "means

considered as licit" pertains to the successful exchanges that are performed. Further,

with the firewall within Montgomery imposing restrictions on what applet, program,

operation, etc. can and cannot obtain access to; this pertains to the Applicant's claim

language of "any operation intended to be forbidden" when a particular component

cannot complete the desired access attempt with success.

6.   Regarding claim 1, Montgomery teaches a method for controlling access to data

handled by references in a system for executing programs (including processes and

tasks), wherein upon executing a program, it comprises the following steps: having the

system store the whole of the references which the program obtains by means

considered as licit (column 2, lines 43-67, "the applications being able to share methods

in a secure manner using delegates to enforce the security policy that each application

wishes to impose with regard to each method shared", column 3, lines 1-5, "providing

maximum granularity of access control", column 4, lines 21-51, "such an arrangement

makes mutual authentication practical, which can lead to applets working together at a

level of trust…" and column 5, lines 3-20);

[The Examiner broadly interprets the claimed "references" to pertain to the

security policies and as to which "server method" they pertain to, as stored within

the server applet(s) of Montgomery.]

before any operation intended to be forbidden, if it deals with values which are not licit

references, having the system check that these values are among the licit references

which have been stored for this program, and acceptance or rejection of the operation

accordingly (column 2, lines 43-67, "the applications being able to share methods in a

secure manner using delegates to enforce the security policy that each application

wishes to impose with regard to each method shared", column 3, lines 1-5, "providing

maximum granularity of access control", column 4, lines 21-51, "such an arrangement

makes mutual authentication practical, which can lead to applets working together at a

level of trust…" and column 5, lines 3-20).

[Further, there is a check within Montgomery as to whether there is a proper

association between the policies and the particular applets initiating the request to

perform particular operation(s); thus teaching the claimed invention.]

7.   Regarding claim 2, Montgomery teaches wherein the references are pointers

and/or handles (Figure 2e, column 3, lines 43-60, "a client applet 100 obtaining a

reference to a server applet 102" and column 4, lines 21-35).

[The claimed "pointers" are broadly interpreted by the Examiner to pertain to the

"reference"(s) disclosed by Montgomery.]

8.   Regarding claim 3, Montgomery teaches wherein the licit means for a program in

order to obtain reference values comprise *at least one of* the following operations:

reading a variable or a datum belonging to the system or to another program, writing

into a variable or datum of said program by the system or by another program, receiving

arguments upon calling a routine of said program by the system or by another program,

utilization of the return value from the call by said program of a routine belonging to the

system or to another program, having said program catch up a raised exception during

execution of a routine belonging to the system or to another program, receiving by said

program an interruption or a valuated signal (column 3, lines 43-60, "the server applet

102 responds by returning 208 to the JCRE 108 a reference to a shareable interface

object (SIO) 206 if access is granted to the client, or null if access is not granted").

9.   Regarding claim 4, Montgomery teaches wherein: the system comprises a

mechanism which determines whether a given value is a valid reference, *and/or* the

stored licit references are limited to the sole references on data considered as sensitive

for the system, *and/or* said checks check that the values are among the sensitive licit

references which were stored for this program or else which are references determined

as valid and dealing with data which are not sensitive (column 4, lines 57-67 and

column 5, lines 3-20).

10.   Regarding claim 5, Montgomery teaches wherein the system comprises a firewall

which forbids certain operations by certain programs on certain referenced data, data

considered as being sensitive for the system being those for which the operations are

not forbidden by the firewall (column 3, lines 43-62, "the SIO 206 still cannot access 216

methods in the client applet 100; such access is still prevented by the firewall 106" and

column 4, lines 21-66, "server applet 102 is still prohibited from accessing 310 the client

applet 100 due to firewall 106").

11.   Regarding claim 6, Montgomery teaches wherein the firewall forbids certain

operations by a program on data belonging to other programs, except on those declared

as shareable (column 3, lines 43-62, "the SIO 206 still cannot access 216 methods in

the client applet 100; such access is still prevented by the firewall 106" and column 4,

lines 21-66, "server applet 102 is still prohibited from accessing 310 the client applet

100 due to firewall 106").

12.   Regarding claim 7, Montgomery teaches wherein the system is based on a Java

Card virtual machine and wherein: a program consists of the whole of the code which is

found in a "Java Card package"; the firewall is that of the Java Card Runtime

Environment (JCRE); the data declared as shareable (and therefore sensitive) are

objects which are instances of classes which implement the

"Javacard.framework.Shareable" interface as well as, possibly, the objects with public

use of the system: global arrays and Entry Point Objects of JCRE (Figures 1-2d, 3a and

3b, column 3, lines 31-60 and column 6, lines 32-62,

"JCSystem.getAppletSharableInterfaceObject").

13.   Regarding claim 8, Montgomery teaches wherein the system stores in sets of

sensitive licit references associated with a package all the references which appear in

the following cases: receiving arguments of "Javacard.framework.Shareable" type when

a method of said package is called by another package or by the system,

"Javacard.framework.Shareable" type return value when said package calls a method

from another package or from the system (including the a

"getAppletSharreableInterfaceObject" method of "Javacard.framework.JCSystem

package"), reading a public static field of "Javacard.framework.Shareable" type in

another package or in the system, catching up an instance object of a class from

(inheriting from) "java.lang.Throwable" and implementing

"Javacard.framework.Shareable" (Figures 1-2d, 3a and 3b, column 3, lines 31-60 and

column 6, lines 32-62, "JCSystem.getAppletSharableInterfaceObject").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating
   obviousness or nonobviousness.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Montgomery as applied to claim 1 above, and further in view of United States Patent

No. 6,658,573 to Bischof et al., hereinafter Bischof.

14.   Montgomery significantly teaches the claimed invention, as cited above.
However, Montgomery does not substantially teach the claim language of claims 9-11.
Bischof teaches said claim language, as cited below.

15.   Regarding claim 9, Bischof teaches wherein the whole of the licit stored
references is represented by a table (column 13, lines 6-25).

16.   The motivation to combine would be to have an appropriate organizational
structure for the objects within the system.

17.   Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to incorporate the teachings of Bischof with the teachings
of Montgomery to provide an interface in which "the entity data and services can be
accessed and transformed" (*Bischof* – column 5, lines 5-7).

18.   Regarding claim 10, Bischof teaches wherein the set of the licit stored references
is emptied, by means of a possibly conservative garbage collector, of references which
have become inactive (column 15, lines 4-11 and column 16, lines 1-9, "the garbage
collection is responsible for removing obsolete objects and freeing up the memory").

19.   The motivation to combine would be to optimize memory allocation.

20.   Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to incorporate the teachings of Bischof with the teachings
of Montgomery so that objects within the memory that are of no further use are
discarded; thus allowing for the amount of memory occupied to be reduced and
providing memory for future objects.

21.   Regarding claim 11, Bischof teaches wherein: the references are represented in

the system by handles and tables of pointers, some of said tables are *possibly* reserved

for licit references, the sets of licit stored references are represented by vectors of bits

associated with some of the tables of pointers, where a bit has a given index which

represents the presence *or* the absence of the corresponding reference in said sets,

said vectors of bits are *possibly* hollow and represented by means of a sequence of

indexes or lengths corresponding to the extents of bits positioned in the same way

(column 13, lines 6-25 and 41-54 and column 14, lines 46-59).

22.   The motivation to combine would be to have the components within the system

arranged within an organized and easily referable structure.

23.   Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to incorporate the teachings of Bischof with the teachings

of Montgomery to provide an interface in which "the entity data and services can be

accessed and transformed" (*Bischof* – column 5, lines 5-7).

Conclusion

24.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

25.   The following United States Patents and Patent Application Publications are

further cited to show the state of the art with respect to data access, such as:

  United States Patent Application Publication No. US 2003/0120593 to Bansal et

  al., which is cited to show a method and system for delivering multiple services

  electronically to customers via a centralized portal.

United States Patent Application Publication No. US 2005/0044197 to Lai, which

is cited to show a structured methodology and design patterns for web services.

United States Patent No. 6,633,984 to Susser et al., which is cited to show

techniques for permitting access across a context barrier on a small footprint

device using an entry point object.

United States Patent No. 7,140,549 to de Jong, which is cited to show a method

and apparatus for selecting a desired application on a smart card.

26.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JEREMIAH AVERY whose telephone number is

(571)272-8627. The examiner can normally be reached on Monday thru Friday 8:30am-

5pm.

27.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

28.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeremiah Avery/
Examiner, Art Unit 2431

/William R. Korzuch/
Supervisory Patent Examiner, Art Unit 2431